

WHAT IS CLAIMED IS:

1. A stereomicroscope comprising:
 - an objective (2);
 - a zoom system (7) downstream of the objective; and
 - 5 a deflector element (5) between the objective (2) and the zoom system (7) for deflecting observation beams emerging from the objective (2) into corresponding magnification or observation channels of the zoom system (7);
 - wherein the zoom system (7) includes at least three substantially horizontally extending magnification or observation channels (7a, 7b, 7c, 7d).
- 10 2. The stereomicroscope according to Claim 1, wherein the zoom system (7) has four magnification or observation channels (7a, 7b, 7c, 7d).
3. The stereomicroscope according to Claim 1, wherein the objective (2) has an optical axis (11) extending substantially vertically.
4. The stereomicroscope according to Claim 3, wherein the zoom system (7) has
15 four magnification or observation channels, and two of the magnification or observation channels (7a, 7b) of the zoom system (7) extend horizontally at the same height and two of the magnification channels (7c, 7d) of the zoom system extend horizontally at a vertical spacing from one another.
5. The stereomicroscope according to Claim 1, further comprising another
20 deflector element (9) downstream of the zoom system for deflecting fewer than all of the observation beams (20a, 20b, 20c, 20d) received by the another deflector element (9).
6. The stereomicroscope according Claim 1, further comprising a deflector element (10) which is pivotable about a horizontal axis (13).

7. The stereomicroscope according Claim 1, further comprising a deflector element (10) which is pivotable about a vertical axis (31).
8. The stereomicroscope according Claim 1, further comprising deflector elements (6a, 6b) downstream of the zoom system (7) for redirecting the observation
5 beams (20a, 20b, 20c, 20d) along a horizontal direction that is substantially opposite to a horizontal direction along which the observation beams travel through the zoom system (7).
9. The stereomicroscope according to Claim 1, further comprising at least one optical add-on component 8a, b, c having a horizontally or vertically extending
10 optical axis.
10. The stereomicroscope according to Claim 9, wherein the at least one optical add-on component includes an SDI element.
11. The stereomicroscope according to Claim 9, wherein the at least one optical add-on component includes a laser shutter.
- 15 12. The stereomicroscope according to Claim 9, wherein the at least one optical add-on component includes an optical splitter.
13. The stereomicroscope according to Claim 9, wherein the at least one optical add-on component includes a data projector.
14. The stereomicroscope according to Claim 9, wherein the at least one optical
20 add-on component includes a filter.